

In re: Lindell et al.  
International Appn. No.: PCT/EP2003/013001  
International Filing Date: November 20, 2003  
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**In the Specification:**

Please amend the specification as follows:

On page 1, line 3, please insert the following after the title and before the heading

"TECHNICAL FIELD OF THE INVENTION:"

**Related Applications**

The present application is a 35 U.S.C. §371 national phase application of PCT International Application No. PCT/EP2003/013001, having an international filing date of November 20, 2003, and claiming priority to European Patent Application No. 02026232.5, filed November 26, 2002, and United States Provisional Application No. 60/431,505, filed December 4, 2002, the disclosures of which are incorporated herein by reference in their entireties. The above PCT International Application was published in the English language and has International Publication No. WO 2004/049502 A1.

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ANTENNA FOR PORTABLE COMMUNICATION DEVICE EQUIPPED WITH A HINGE

## TECHNICAL FIELD OF THE INVENTION

The present invention relates to the field of antennas and more particularly to a portable communication device with a hinge including an in-built antenna as well as an antenna arrangement for a portable communication device, which includes a hinge.

## DESCRIPTION OF RELATED ART

There is a trend within the field of portable communicating devices, and especially within the field of cellular phones to have the antenna in-built in the phone itself. At the same time the frequency bands needed for such phones need to be broad, which is in many cases a conflicting interest.

One type of such in-built antenna is described in WO-0237600. Here a cellular phone having an antenna system provided within the casing of the phone is described. The antenna is made up of a first antenna element in the form of the shielding, casing or chassis of the phone and is fed against a second antenna element functioning as a counterpoise provided at one end of the antenna. The counterpoise is here provided within the main body of the phone, which unnecessarily limits the size of the first antenna element, which needs to take up as much as possible of the main part of the phone in order to function best.

There is furthermore a trend towards clamshell phones, which have two parts hingedly connected to each other. Normal antennas in cellular telephony are so called PIFA (planar Inverted-F Antennas). These antennas require a substantial space inside the phone and are sensitive to folding and unfolding. If placed on a twistable upper half, usually containing the main display, such a PIFA will be turned to the inside of the part of the phone, preventing any useful radiation.

A typical clam-shell phone is described in US 6,097,339. The practice here is to provide the antenna on an end of one part beside the hinge interconnecting the two parts. This antenna would furthermore be hindering any possible twisting of the upper part of the phone if this was possible. Since the antenna is protruding from the phone body, it makes the phone larger and more bulky than it has to be, especially when folded.